

**PCT/US 02/41605  
IPENUS 02 FEB 2004**

What is claimed is:

1. Door skin hammer apparatus adapted for activation by a conventional pneumatic door hammer comprising:

5 a frame supporting an axially slidable striking hammer having a head adapted to mate with an anvil equipped with a resilient bed member;

10 means for selectively mounting the striking hammer in one of two operative positions as crimping of a vehicle door skin edge progresses from an angle of approximately 90° to the generally planar shape of the door skin to a finished fully-folded shape encasing the door edge;

15 --said anvil and said striking head being mountable on opposite sides of the vehicle door skin edge so as to fold said door skin edge about said door edge;--

the first position being established at a selected angle between the approximately ninety-degree initial configuration of the door skin edge and 90° to the plane of the door skin; and

20 the second position being established at an angle essentially perpendicular to the plane of the door for achieving complete crimping of the door skin to the door frame.

2. The apparatus of claim 1 wherein said selected angle for said first position is essentially 45°.

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3. The apparatus of claim 1 wherein said frame comprises an upper body head for coupling to said air hammer and a hollow lower body head coupled to the upper body head by a pair of mutually adjustable arms mounted in a configuration to maintain said anvil in alignment with said striking hammer.

4. The apparatus of claim 3 wherein said anvil is fixed on the end of a shaft which is slidable within said hollow lower body head between positions defined by a pair of latching recesses on said shaft.

5. The apparatus of claim 4 further comprising a hollow handle attached to said lower body head, said hollow

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handle containing biasing means for urging said shaft and anvil in the direction of said striking hammer.

6. The apparatus of claim 5 wherein said shaft is provided with at least two spaced-apart latching recesses for use in latching the anvil in a retracted position or in an extended position relative to the handle.

7. The apparatus of claim 6 further including a pivoted lever having an outer end for engaging one of the said recesses and a spring for biasing said lever into engagement with said recesses.

8. The apparatus of claim 7 further comprising a hand grip of resilient material encasing said handle.

9. The apparatus of claim 8 wherein said upper and lower arm extensions are coupled together in a lockable joint to fix the upper body head and lower body head in a selected position for the striking hammer.

10. The apparatus of claim 9 wherein said lockable joint comprises an adjustable mounting mechanism.

11. The apparatus of claim 10 wherein said adjustable mounting mechanism includes a slot in an end of one of said arms and a threaded fastener coupled through said slot to an adjacent end of the other one of said arms.

12. The apparatus of claim 11 further includes means adjacent to the striking hammer for maintaining the position of the hammer against rotation.

13. The apparatus of claim 12 wherein said means incorporates a pin extending laterally from the striking hammer and a tubular sleeve for receiving said pin, and further

including a spring mounted in said tubular sleeve and bearing against said pin to keep the striking hammer in contact with the pneumatic hammer during a return stroke thereof.

14. The apparatus of claim 5 including means for preventing rotation of the shaft and anvil during operation comprising a channel in said shaft which is engaged by a channel guide attached to the lower body head.